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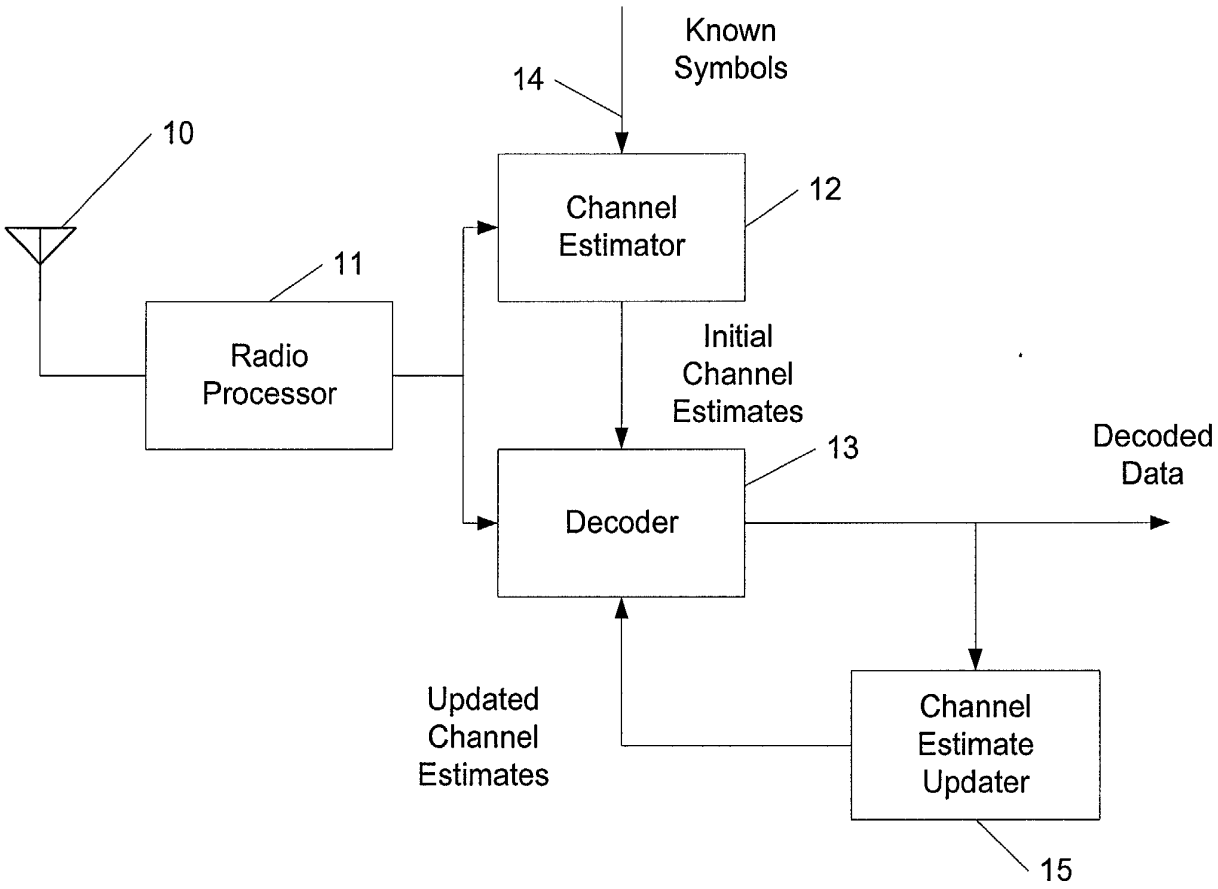

FIG. 1
Prior Art

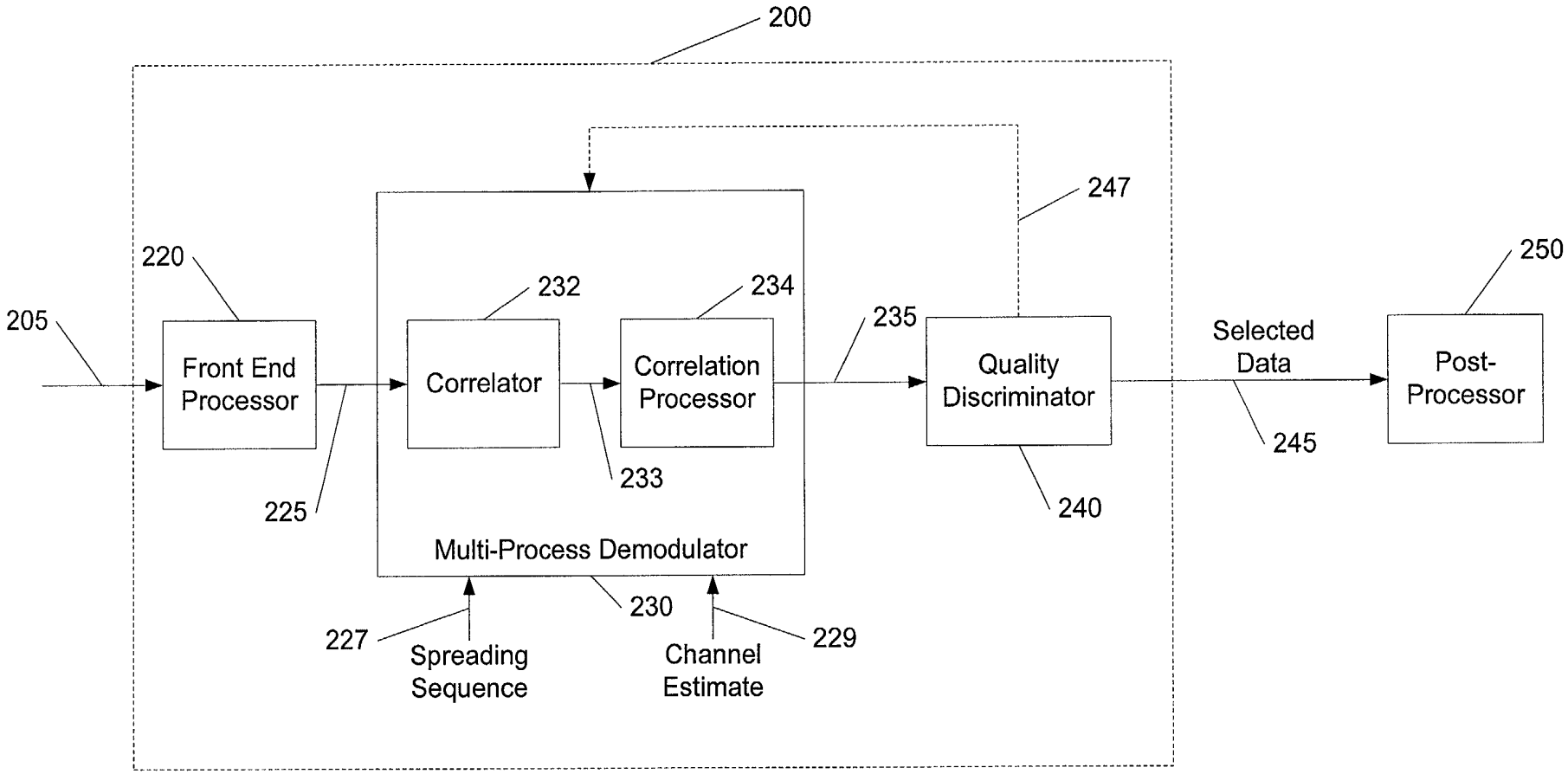
200
247
220
232
234
250
205
235
Front End Processor
Correlator
Correlation Processor
Quality Discriminator
Selected Data
Post-Processor
225
233
240
245
Multi-Process Demodulator
230
227
229
Spreading Sequence
Channel Estimate

FIG. 2

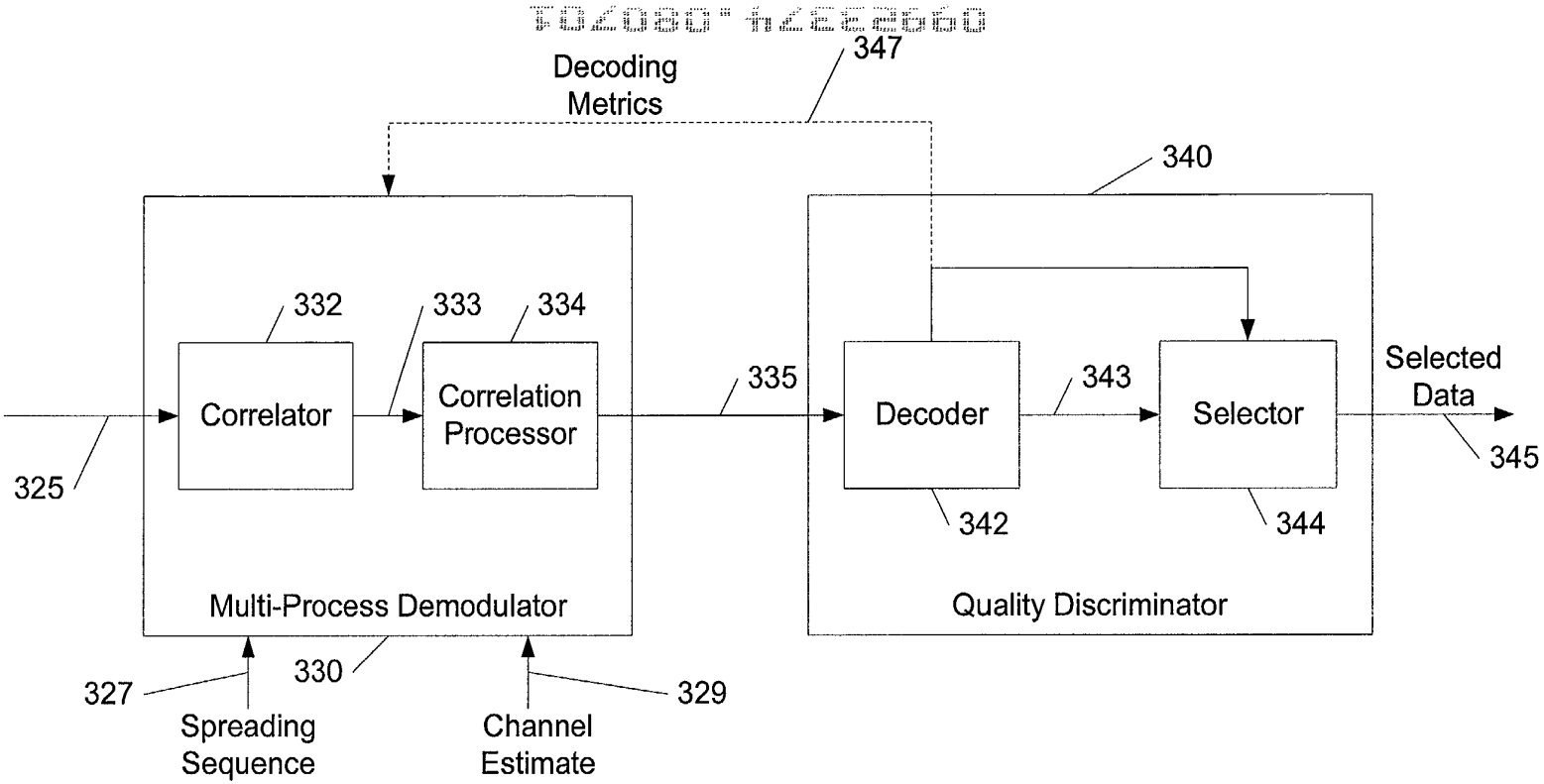
Decoding
Metrics
347
340
332
333
334
Correlator
Correlation
Processor
335
Decoder
343
Selector
Selected
Data
345
325
342
344
Multi-Process Demodulator
Quality Discriminator
327
330
329
Spreading
Sequence
Channel
Estimate

FIG. 3

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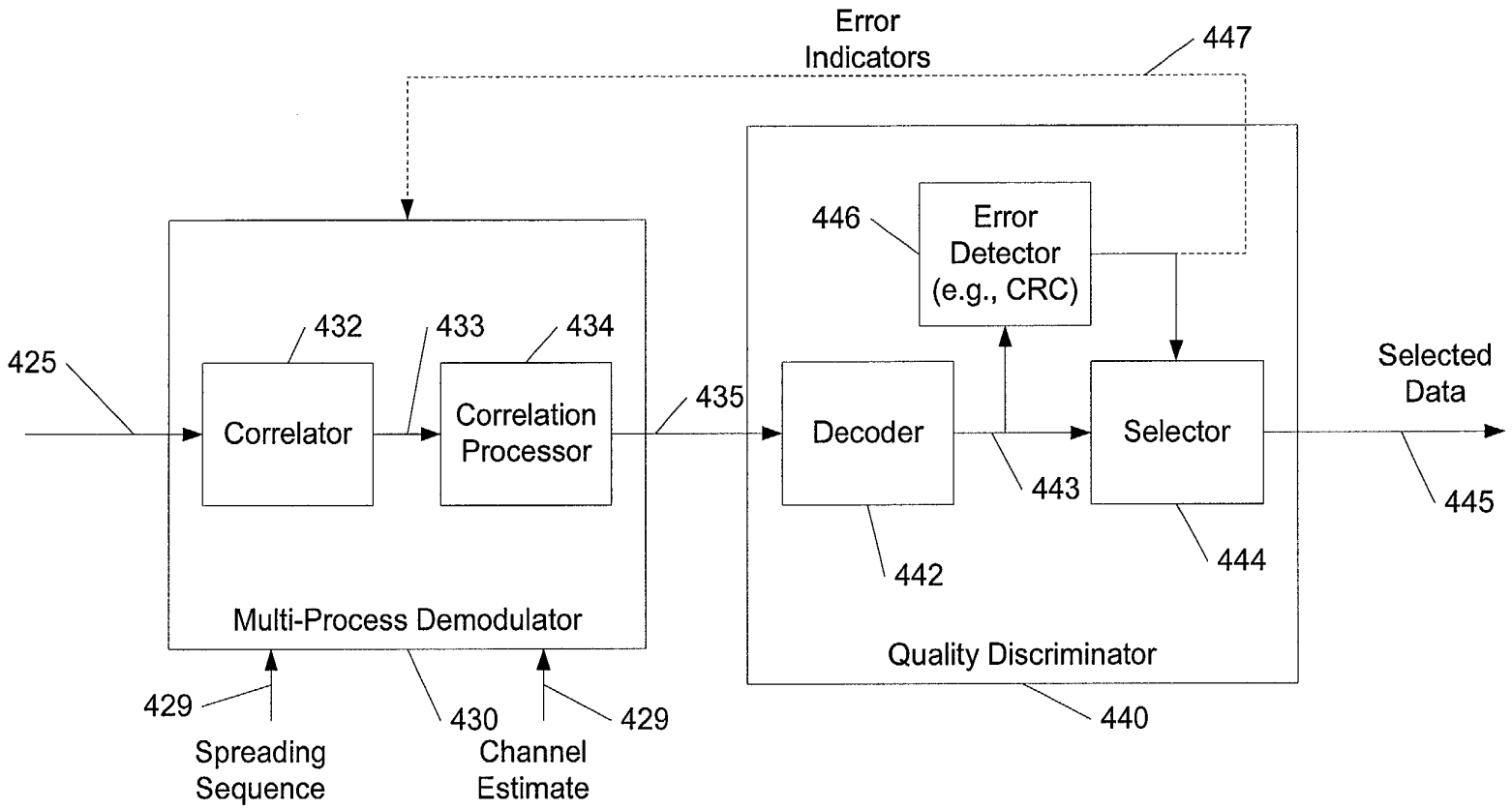


FIG. 4

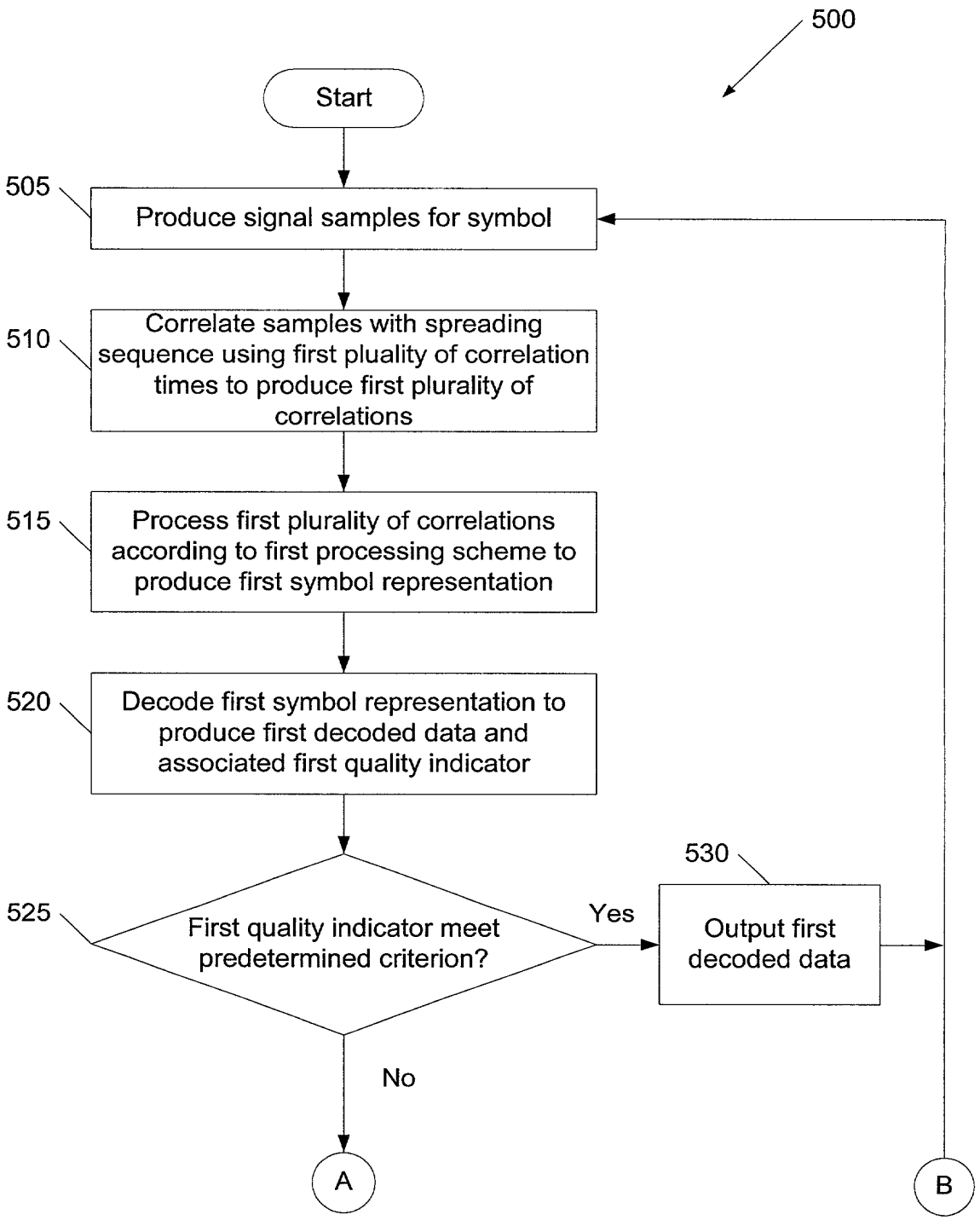

500
Start
505
Produce signal samples for symbol
510
Correlate samples with spreading sequence using first pluality of correlation times to produce first plurality of correlations
515
Process first plurality of correlations according to first processing scheme to produce first symbol representation
520
Decode first symbol representation to produce first decoded data and associated first quality indicator
525
First quality indicator meet predetermined criterion?
Yes
530
Output first decoded data
No
A
B

FIG. 5A

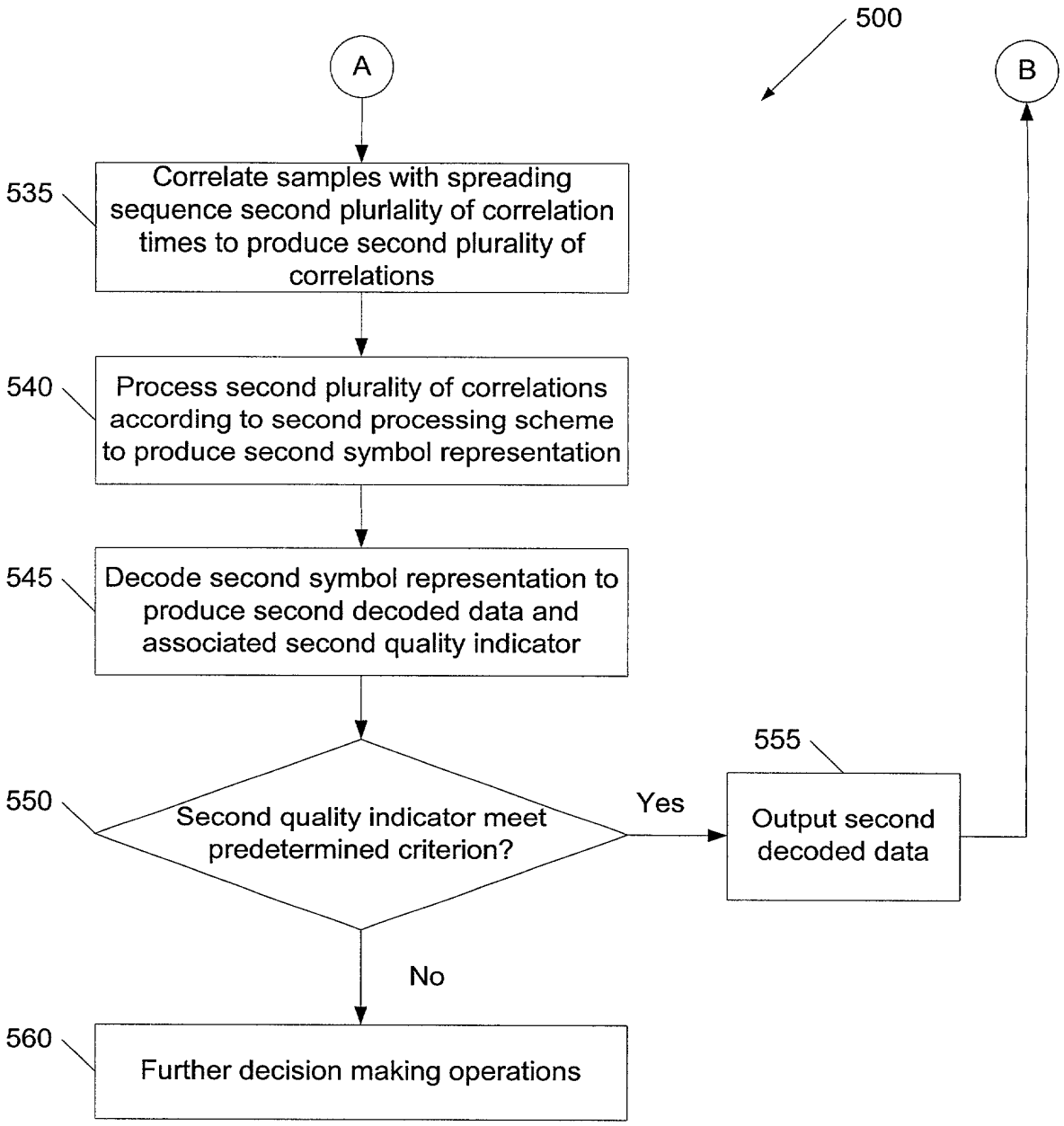

500
A
B
535
Correlate samples with spreading sequence second plurlality of correlation times to produce second plurality of correlations
540
Process second plurality of correlations according to second processing scheme to produce second symbol representation
545
Decode second symbol representation to produce second decoded data and associated second quality indicator
550
Second quality indicator meet predetermined criterion?
Yes
555
Output second decoded data
No
560
Further decision making operations

FIG. 5B

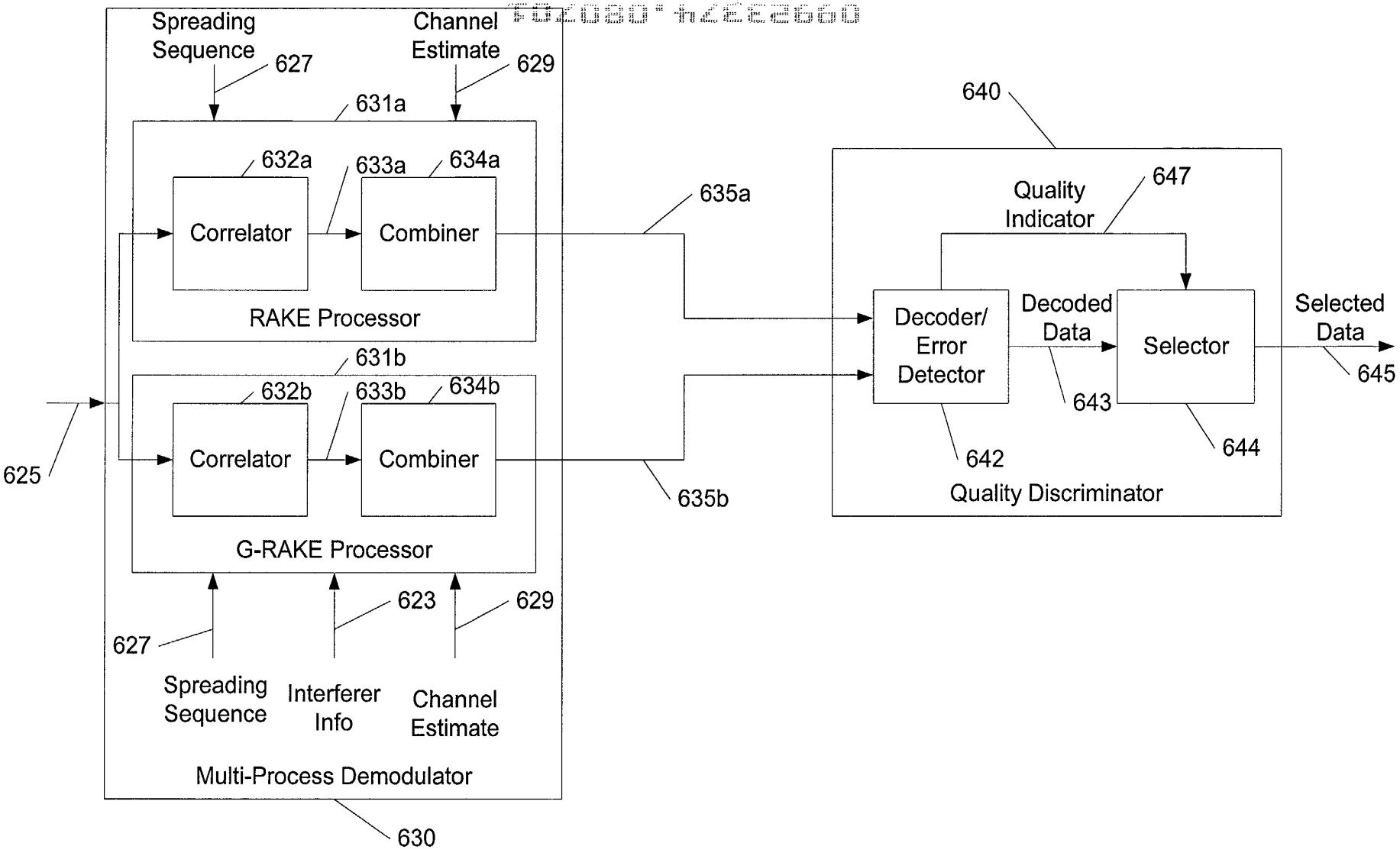

Spreading Sequence
627
Channel Estimate
629
631a
632a
633a
634a
Correlator
Combiner
RAKE Processor
631b
632b
633b
634b
Correlator
Combiner
G-RAKE Processor
625
627
623
629
Spreading Sequence
Interferer Info
Channel Estimate
Multi-Process Demodulator
630
635a
635b
640
Quality Indicator
647
Decoder/ Error Detector
Decoded Data
Selector
Selected Data
643
644
642
645
Quality Discriminator

FIG. 6

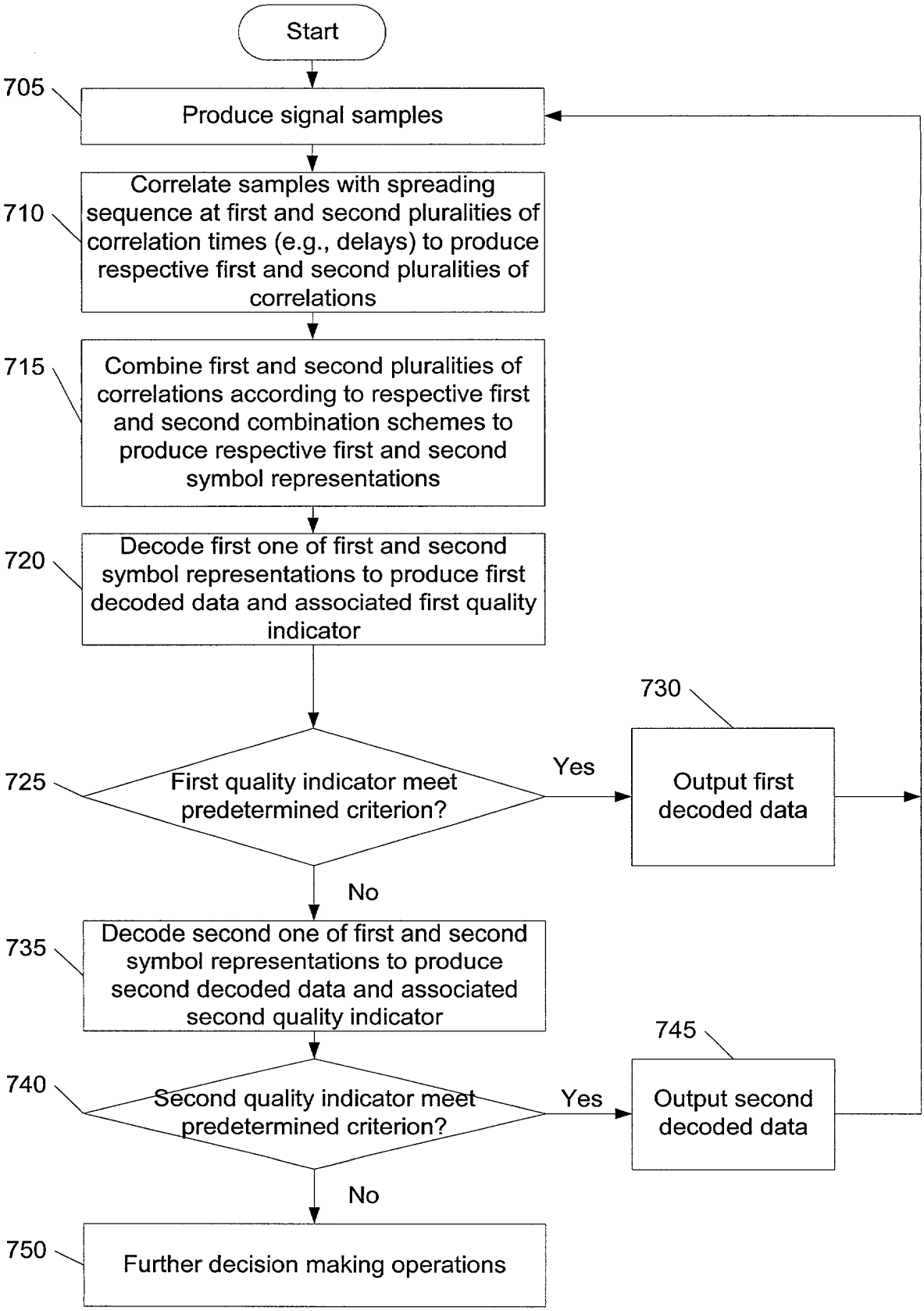

Start
705
Produce signal samples
710
Correlate samples with spreading sequence at first and second pluralities of correlation times (e.g., delays) to produce respective first and second pluralities of correlations
715
Combine first and second pluralities of correlations according to respective first and second combination schemes to produce respective first and second symbol representations
720
Decode first one of first and second symbol representations to produce first decoded data and associated first quality indicator
725
First quality indicator meet predetermined criterion?
Yes
730
Output first decoded data
No
735
Decode second one of first and second symbol representations to produce second decoded data and associated second quality indicator
740
Second quality indicator meet predetermined criterion?
Yes
745
Output second decoded data
No
750
Further decision making operations

FIG. 7

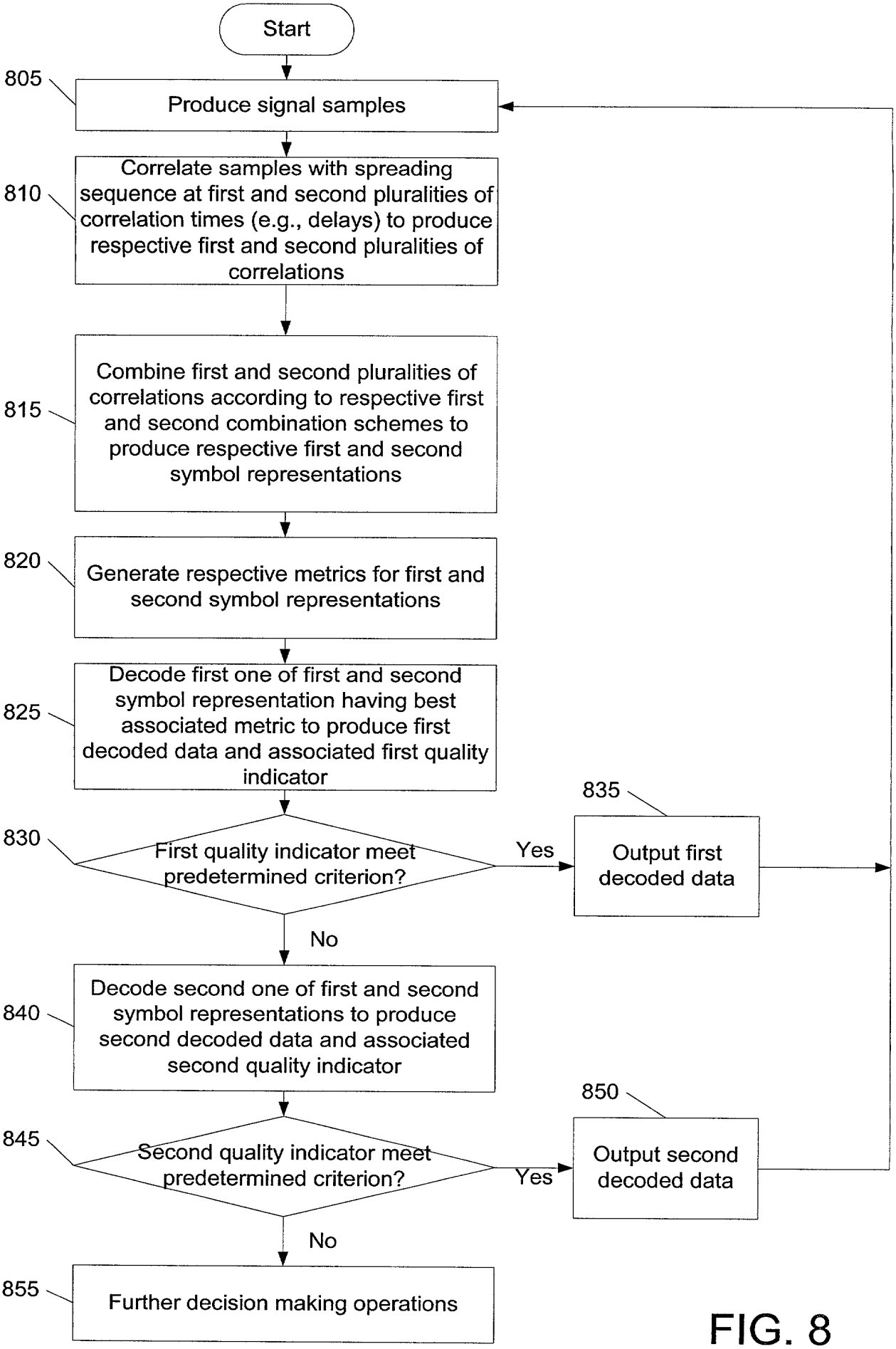
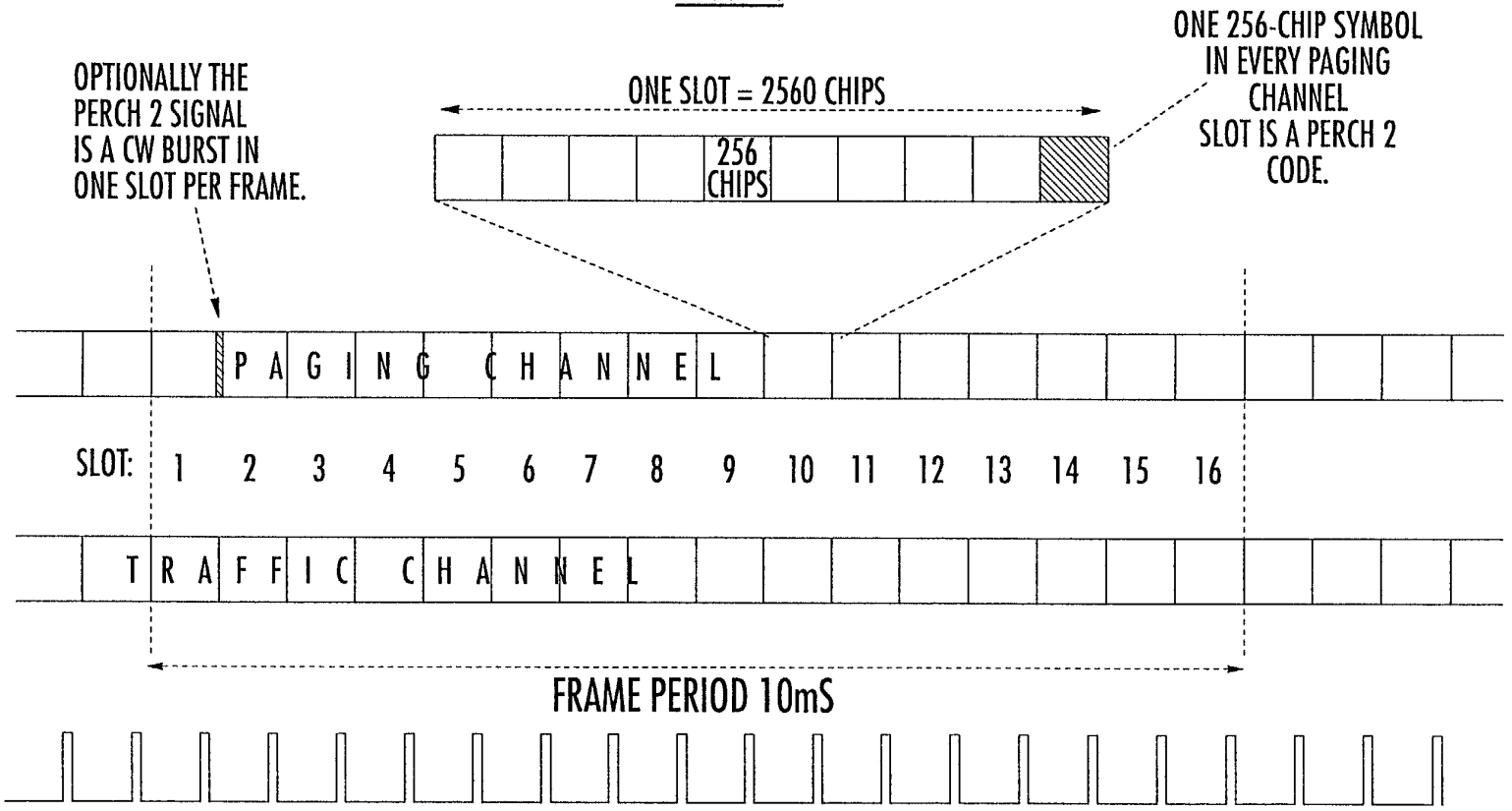

Start
805
Produce signal samples
810
Correlate samples with spreading sequence at first and second pluralities of correlation times (e.g., delays) to produce respective first and second pluralities of correlations
815
Combine first and second pluralities of correlations according to respective first and second combination schemes to produce respective first and second symbol representations
820
Generate respective metrics for first and second symbol representations
825
Decode first one of first and second symbol representation having best associated metric to produce first decoded data and associated first quality indicator
830
First quality indicator meet predetermined criterion?
Yes
835
Output first decoded data
No
840
Decode second one of first and second symbol representations to produce second decoded data and associated second quality indicator
845
Second quality indicator meet predetermined criterion?
Yes
850
Output second decoded data
No
855
Further decision making operations

FIG. 8

JD 2080 * h2662660

FIG. 9.



PERIODIC CHANNEL 1 (PERCH 1) = BURST OF A 256-CHIP KNOWN CODE IN EVERY 0.625mS SLOT

FIG. 10.

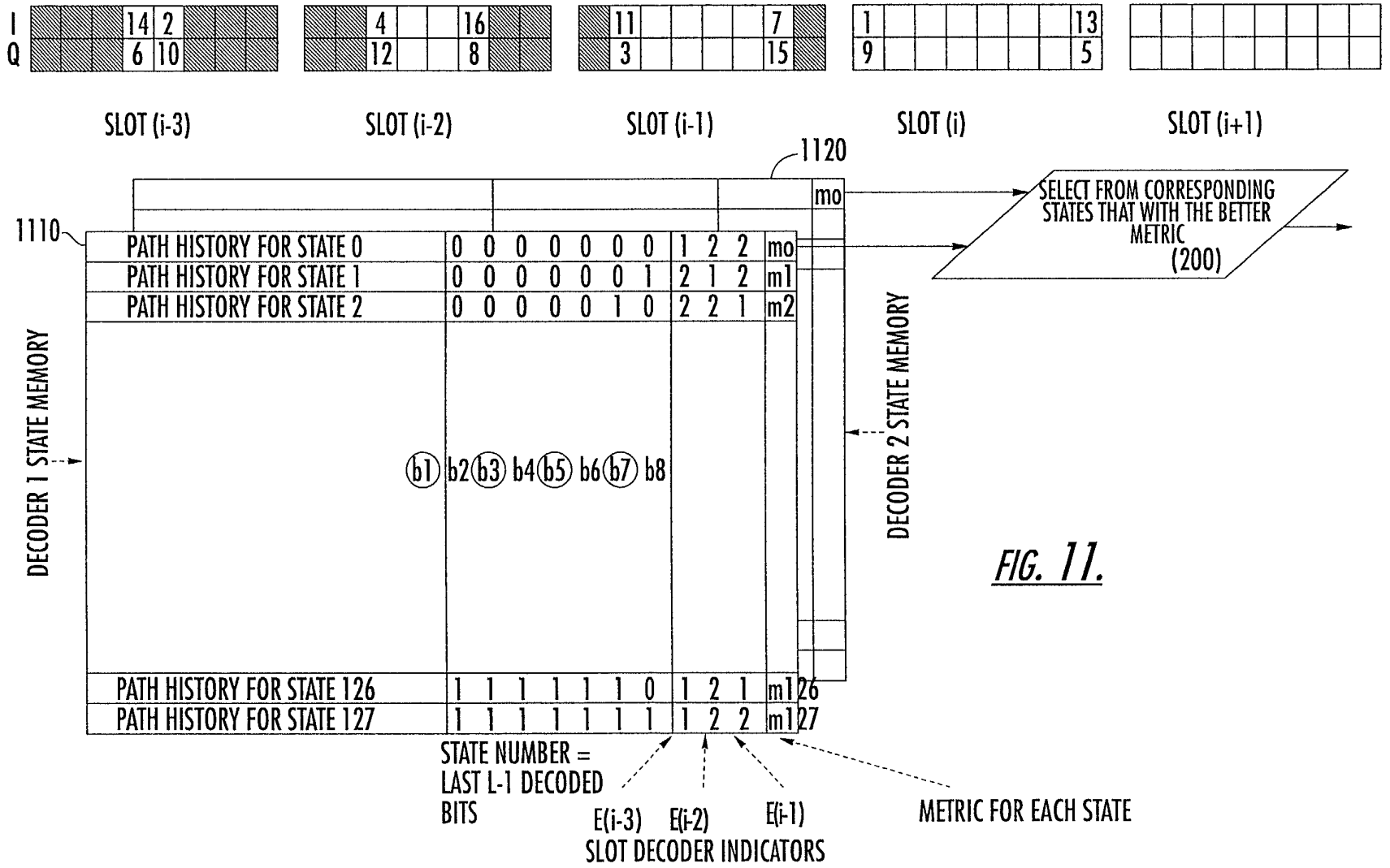

I
Q
14 2
6 10
4 16
12 8
11 7
3 15
1 13
9 5
SLOT (i-3)
SLOT (i-2)
SLOT (i-1)
SLOT (i)
SLOT (i+1)
1120
1110
mo
SELECT FROM CORRESPONDING STATES THAT WITH THE BETTER METRIC
(200)
PATH HISTORY FOR STATE 0 0 0 0 0 0 0 0 1 2 2 mo
PATH HISTORY FOR STATE 1 0 0 0 0 0 0 1 2 1 2 m1
PATH HISTORY FOR STATE 2 0 0 0 0 0 1 0 2 2 1 m2
(b1) b2 (b3) b4 (b5) b6 (b7) b8
PATH HISTORY FOR STATE 126 1 1 1 1 1 1 0 1 2 1 m126
PATH HISTORY FOR STATE 127 1 1 1 1 1 1 1 1 2 2 m127
DECODER 1 STATE MEMORY
DECODER 2 STATE MEMORY
STATE NUMBER = LAST L-1 DECODED BITS
E(i-3) E(i-2) E(i-1)
SLOT DECODER INDICATORS
METRIC FOR EACH STATE

FIG. 11.